UNF UNIVERSITY of NORTH FLORIDA

Florida Public Health Review

Volume 9 Article 9

February 2012

A Preventable Epidemic: Kotter's Eight Step Change Model Applied to Type 2 Diabetes in Youth

Jo Marie Courtney

A Preventable Epidemic: Kotter's Eight Step Change Model Applied to Type 2 Diabetes in Youth

Jo Marie Courtney, BS

ABSTRACT

Type 2 diabetes affecting children is a global epidemic that can be addressed by applying leadership models traditionally applied to corporate business structures. Leadership models provide the guidelines to apply to a problem and create a vision of change. Approximately 346 million individuals currently suffer from diabetes worldwide. According to the World Health Organization (WHO), of those individuals with diabetes, 90% have type 2. Once a disease characterized by middle-aged, overweight adults, type 2 diabetes is now being diagnosed in children and adolescents. The severity of type 2 diabetes is greater than the diagnosis portrays due to the many co-morbidities and risk factors that patients with type 2 diabetes are at risk of obtaining. Type 2 diabetes is a complex disease and can be examined from many different disciplines including, but not limited to, economic, environmental, and cultural factors. Kotter's Eight Step Change Model displays how a leadership model can be applied to a public health issue such as diabetes in order to develop change. Once applied to Kotter's Eight Step Change Model, the complexity of the global epidemic becomes less intimidating and more approachable and obtainable.

Florida Public Health Review, 2012; 9, 62-65.

Background

Health threats are constantly introduced to communities. Globalization has only increased the number of new bacteria and viruses exposed to environments on a daily basis. Herd immunity usually is capable of battling new bacteria and viruses and as a result, epidemics rarely form. However, what happens when a change within a population results in the self-exposure to new health risks? What happens when a culture evolves into an at risk target population for a chronic disease? Due to cultural evolution children around the world are now battling conditions once known as "adult" diseases. One example of this phenomenon is type 2 diabetes. Due to obesity, type 2 diabetes is now an epidemic that affects youth worldwide (World Health Organization [WHO], 2011). Because of the co-morbidity, type 2 diabetes is a complex problem that is multifaceted in nature. It is through leadership approaches and methods that public health educators can begin to address public health issues, such as type 2 diabetes in youth. Kotter's Eight Step Change Model, designed by John Kotter, is a sequential process that builds upon each step to produce the final product (Kotter, 1995). Applying Kotter's Eight Step Change Model to type 2 diabetes among youth provides a distinct process to prevention, treatment, and management.

Significance of Type 2 Diabetes in Youth

Any epidemic is of public health concern, but type 2 diabetes presents a particularly interesting issue to address. In the past, type 2 diabetes was a chronic disease only experienced by adults. However, youth worldwide are now being affected by type 2 diabetes and by the multiple complications induced by the disease. Considering the exponential growth of type 2 diabetes among children and its ease of prevention, public health educators must take leadership and address the type 2 diabetes epidemic.

Type 2 diabetes is a result of the body's ineffective use of insulin (WHO, 2011). According to Kaiser Permanente, type 2 diabetes "develops when the pancreas cannot make enough insulin or when the body's tissues cannot use insulin properly" (Pope, 2010). Insulin is a hormone that regulates the body's glucose (sugars). Glucose needs to enter the cells for energy (Pope, 2010). If glucose is unable to enter the cells, it remains in the blood stream and causes high blood sugar levels. An individual diagnosed with type 2 diabetes frequently has abnormally high blood sugar (Pope, 2010). The most common co-morbid condition associated with type 2 diabetes in youth is obesity.

According to the WHO (2011), 346 million people worldwide have diabetes. Ninety percent of those individuals affected by this chronic illness are experiencing type 2 diabetes. The effects of diabetes continue to worsen. According to the British Medical Bulletin, between 1976 and 1997, type 2 diabetes diagnoses increased 10-fold in children between the ages of 6 and 12 years old. During the same period, the rate of diagnosis among adolescents doubled (Matyka, 2008). Children as young as four years old have been diagnosed with type 2 diabetes. Currently, the average age of diagnosis is 13 years old (Nwobu & Johnson, 2007). This chronic illness disproportionately affects subpopulations targeting different ethnic groups and

lower income populations (Goran, Ball, & Cruz, 2005). The WHO (2011) predicts that deaths associated with diabetes will double between 2005 and 2030.

The prevalence of the disease determines its severity; therein is the rationale for public health educators being leaders in addressing type 2 diabetes. Type 2 diabetes is a lifelong chronic disease that brings many serious consequences for youth and adult patients. However, a child with diabetes before age 15 loses 27 years of life on average compared to healthy peers (Nwobu & Johnson, 2007). Other co-morbidities that patients with type 2 diabetes encounter are obesity complications, cardiovascular risk, insulin resistance syndrome, and depression (Goran, Ball, & Cruz, 2005). Half of all patients diagnosed with diabetes die of heart disease or stroke. Living with diabetes can damage the heart, blood vessels, eyes, kidneys, and nerves (WHO, 2011). A patient with type 2 diabetes is more than twice as likely to die compared to a healthy individual (WHO, 2011).

Health educators need to become more involved in the promotion of preventing type 2 diabetes in children. Educating parents on their role in avoiding or stalling the onset of type 2 diabetes may be a powerful tool when it comes to prevention. Because of the strong co-morbidity type 2 diabetes shares with obesity, prevention primarily focuses on a healthy body weight. According to the WHO (2011), preventing or stalling the onset of type 2 diabetes can be done with a healthy diet, regular physical exercise, avoiding tobacco, and maintaining a normal body weight. Maintaining a healthy weight to prevent a chronic, life shortening illness seems obvious, but is not easy to achieve. The path is paved for public health practitioners to apply leadership approaches to type 2 diabetes and start educating the public on the lifestyle changes that need to occur to prevent future populations from living with a chronic disease.

Factors Related to or Affecting Type 2 Diabetes

Preventing childhood obesity will prevent type 2 diabetes from developing in children. It seems as if it would be a simple fix, yet obesity in children is at an all-time high. Public health is presented with a complicated health issue that includes disparities, environmental and cultural factors all contributing to the complexity of the type 2 diabetes epidemic. When deciphering the disease, it is easiest to start with who is most affected.

Historically, type 2 diabetes has been called, "non-insulin dependent diabetes" or "adult onset diabetes" (WHO, 2011). The stereotypical patient was a middle aged, overweight adult. Pediatricians were familiar with slim children who needed insulin injections, a characteristic of type 1 diabetes. With the drastic increase in rates of childhood obesity, this physical sign is no longer valid or reliable (Matyka, 2008). Recently, the clear diagnosis between type 1 and type 2 that once existed has disappeared. The cultural changes during the past twenty years have complicated the diagnosis, treatment, and prevention recipe that is currently lacking standardization (Matyka, 2008).

Another contributor to the complication of type 2 diabetes affecting youth is the debate on whether to test children for type 2 diabetes. Currently, there is no standardized procedure or recommendation to test children for type 2 diabetes. Screening only takes place selectively. According to the American Diabetes Association (ADA), recommended standardized screening is for adults 45 years old or older (Centers for Disease Control and Prevention [CDC], 2011). Advocates for routinely testing children argue their side with the drastic increase in numbers of children diagnosed with type 2 diabetes. Supporters also explain that there is a preclinical, recognizable stage for the disease and that tests can diagnose diabetes in preclinical stages (CDC, 2011). The opposing argument focuses on the fact that early detection and treatment does not necessarily reduce long term complications. Other arguments against routine testing include the cost and there is no uniform, systematic screening test (CDC, 2011). A standardized, systematic form of preventative screening must be implemented before more children's lives are shortened by type 2 diabetes.

Due to the high co-morbidity with obesity, the environment may be one of the most dangerous exposures that affect children. The child's developmental environment contributes to the evolution of his behaviors, thoughts, and choices. Children are the specific target of television and media commercials that advertise soft drinks, foods high in fat, and snacks with excess calories (Nwobu & Johnson, 2007). Many companies choose to advertise their unhealthy products to children using a famous face that the children will recognize and idealize, such as a celebrity or a fictional character from a popular movie. Another environmental factor contributing to type 2 diabetes is the lack of sidewalks, parks, and green spaces where it is safe for children to be physically active. Streetlights are highly important in order for parents to allow their children to play outside after dusk. These are just a few examples of the long list of environmental contributors that shape decisions that contribute to health.

Prevention, treatment, and management of a chronic disease have a hefty economic impact. Annual hospital visits regarding an obesity-related problem costs $127 million annually for 6-17 year-olds (Goran, Ball, & Cruz, 2005). Individuals, families, healthcare systems, and countries begin incurring costs associated with chronic illnesses. The WHO (2011) estimates that between 2006 and 2015 China will spend $558 billion due to heart disease, stroke, and diabetes. It is solely through the promotion of

prevention and lifestyle change that these economic burdens can be decreased.

When studying type 2 diabetes, different ethnic backgrounds illustrate health disparities. African American, Hispanic, and Native American children are disproportionately affected by type 2 diabetes (Goran, Ball, & Cruz, 2005). This was partially displayed by differences in insulin sensitivity and insulin response (Nwobu & Johnson, 2007). However, culture played a role as well. For example, within the African American culture being overweight is sometimes viewed as attractive, especially for females. It was also found that African American mothers do not favor using weight charts and felt that the term obesity was a term to describe mobility, not weight (Nwobu & Johnson, 2007). It is small differences in perception, such as weight charts, that can disproportionately expose a population to a health risk.

The multifaceted nature of type 2 diabetes makes it seem overwhelming to address. Luckily, it continues to be a public health priority. The WHO (2011) assists with surveillance, prevention, and management of type 2 diabetes, especially in communities of low and middle-incomes worldwide. The WHO (2011) offers guidelines for prevention, develops standards for managing diabetes, contributes to awareness on the current global epidemic and conducts surveillance of diabetes and the risk factors commonly associated.

Implications for Leadership

Type 2 diabetes is currently a global epidemic. The need has never been greater for public health educators to become the leaders in thoroughly addressing diabetes. Most leadership models are commonly found in business classes and applied to the corporate work field. However, they are not strictly applicable to corporate structures. Leadership models are versatile and can be applied to nearly any situation or problem. Public health educators need to begin studying and adapting leadership models when deciphering a public health issue. For example, Kotter's Eight Step Change Model can be directly applied to type 2 diabetes and the framework provides an illustration as to decrease type 2 diabetes' prevalence levels below epidemic levels (Kotter, 1995). Kotter's Eight Step Change Model is comprised of eight sequential steps. The steps build on one another and are dependent on the success of the previous step for the success of the next. Each step must be completed in numerical order (Kotter, 1995).

Step 1 is "Establishing a sense of urgency" (Kotter, 2005). For any issue or dilemma if a sense of urgency and need is not prevalent then it is not felt imperative to act quickly on the matter. Kotter explains how 50% of all attempts to change something fail at the start due to the lack of felt urgency (Kotter, 1995). Public health educators could merely begin with awareness. They could make it well known that the children of the United States are struggling with obesity and type 2 diabetes and diagnosis increased 10-fold between 1976 and 1997 (Matyka, 2008). Many times sensitive subject matters are ignored or silenced instead of addressed. Establishing a sense of urgency includes identifying the facts and discussing type 2 diabetes as well as the potential of the problem if it were to remain unaddressed.

Step 2 is "Forming a powerful guiding coalition" (Kotter, 1995). Kotter describes how assembling a group with enough power to create change is critical (Kotter, 1995). The guiding coalition in public health would be known as the stakeholders. The stakeholders can include organizations, associations, patients, family members of patients, students, and researchers. Anyone that has inherent interest in type 2 diabetes would be involved in the coalition. It is important to involve members of the community so that they can actively promote the coalition's efforts in that community. Some examples of important figures to involve in a type 2 diabetes coalition would be the CDC, the WHO, and the National Institute of Diabetes and Digestive and Kidney Diseases.

Step 3 is "Creating a vision" (Kotter, 1995). It is important to create a vision as a coalition so that everyone's concerns are addressed in order to motivate participation of all members. According to Kotter, the vision must direct the change effort (Kotter, 1995). The vision must be clear so that every person or organization involved has the same goal and that every decision or step taken centers around whether it contributes to achieving the common vision.

Step 4 emphasizes "Communicating the vision" (Kotter, 1995). For example, if the vision focuses on prevention then "prevention" must be effectively communicated using different media formats. Kotter states that leaders must "use every vehicle possible to communicate the new vision and strategies" (Kotter, 1995). In public health the vehicle of communication could be pamphlets, posters, texts, tweets, television advertisements, social media outlets, and paraphernalia with promotional messages. In regards to marketing, the more frequently that the consumer is exposed to the product, the more likely they are to recognize and choose to use the product. The same concept is applied to communicating the vision. The more outlets used to expose people to the vision, the more likely they are to support and show interest in the change efforts.

Step 5 is "Empowering others to act on the vision" (Kotter, 1995). As a public health educator, this may be the most difficult step. Kotter explains that the coalition must rid all obstacles disabling change, change systems or structures that undermine the vision, and encourage any risk necessary to act on change (Kotter, 1995). Obstacles may be systematic or result from a person failing to behave in ways that support the vision (Kotter, 1995). Removing the obstacles strengthens credibility and creates

momentum towards the overall vision. Kotter uses the example that if the president of the organization is not supporting the overall vision, then it is no longer achievable. Although he or she is the president, they are prohibiting the entire vision from becoming a reality (Kotter, 1995). This may be the most difficult task in Kotter's model. Although difficult, once achieved, step five will empower the coalition to complete the remaining steps.

Step 6 is "Planning for and creating short-term wins" (Kotter, 1995). When developing a large-scale vision it is important to set short-term achievable goals to provide a sense of accomplishment among the coalition. Short-term goals act as encouragement and success. Kotter discusses how visible performance improvement goals must be planned for, met, and recognizable as to be rewarding for those stakeholders directly involved (Kotter, 1885). One short-term goal for addressing type 2 diabetes may be to fix the light bulbs in all streetlamps in a city park. This short-term goal is achievable, but will also encourage parents to allow their children to play outdoors at dusk. Meeting small goals encourages groups to continue working towards the vision. The community would also physically experience the positive changes and in turn the coalition may gain more supporters.

Step 7 is "Consolidating improvements and producing still more change" (Kotter, 1995). When goals are met, credibility increases. Kotter explains how coalitions must use their increased credibility to continue change on a large scale, such as changes in the structures and policies that do not support the coalition's vision. Kotter discusses how this is the stage in which expanding the coalition with individuals capable of implementing the vision is crucial (Kotter, 1995). In public health this would be the step when the coalition would take their successes thus far and present them to the individuals arguing against prevention. Many may begin to see the benefits of being proactive and supporting prevention. With new supporters, new themes may be added to refuel the coalition. This step requires evaluation of the successes and failures to date, and is a motivational next step towards the vision for the whole group.

Step 8 is "Institutionalizing new approaches" (Kotter, 1995). Kotter explains that leaders must "articulate the connections between the new behaviors and corporate success and develop the means to ensure leadership development and succession" (Kotter, 1995). Recognizing what change agents were successful and continue on that path of change is crucial (Kotter, 1995). Evaluation of the previous seven steps takes place. In public health, this would be an opportunity to expand on the target population and create change on a larger scale. It is important to demonstrate to others how the vision was successfully met to make sure the new behaviors are not short lived (Kotter, 1995). If the process is reliable, the new policies and procedures begin the process of becoming the new normal.

When applying Kotter's Eight Step Change Model to type 2 diabetes it becomes clear how to begin creating change in addressing this global epidemic. With the continued diagnoses of type 2 diabetes in youth, there is no time like the present for health educators to start exploring successful leadership approaches and methods. The evidence based leadership models that have been successful through history need to be applied to public health issues to prevent disease and promote health.

References

Centers for Disease Control and Prevention. (2011). *CDC statements on diabetes issues.* Retrieved February 15, 2012 from http://www.cdc.gov/diabetes/news/docs/dpp.htm.

Goran, M.I., Ball, G.D.C., & Cruz, M.L. (2003). Obesity and risk of type 2 diabetes and cardiovascular disease in children and adolescents. *Journal of Clinical Endocrinology & Metabolism*, *88*(4), 1417-1427.

Kotter, J.P. (1995). Leading change: why transformation efforts fail. *Harvard Business Review*, 59-67. Retrieved November 11, 2011 from http://www.mainecompact.org/documents/Faculty Rewards/Kotter Leading Change - Why Transformation Efforts Fail.pdf

Matyka, K.A. (2008). Type 2 diabetes in childhood: epidemiological and clinical aspects. *British Medical Bulletin*, *86*, 59-75.

Nwobu, C.O., & Johnson, C. C. (2007). Targeting obesity to reduce the risk for type 2 diabetes and other co-morbidities in African American youth: a review of the literature and recommendations for prevention. *Diabetes and Vascular Disease Research*, *4*, 311 - 319.

Pope, J. (2010). *Type 2 diabetes in children.* Retrieved November 11, 2011 from https://members.kaiserpermanente.org/kpweb/healthency.do?hwid=uq1099

World Health Organization. (2011). Diabetes. (2011). Retrieved November 11, 2011 from http://www.who.int/mediacentre/factsheets/fs312/en/index.html

Jo Marie Courtney (jcourtney@mail.usf.edu) is a master of public health student in the Department of Community and Family Health, University of South Florida College of Public Health, Tampa, FL.

This paper was submitted to the *FPHR* on November 27, 2011, and accepted for publication on February 15, 2012.